

WHAT IS CLAIMED IS:

1. A non-aqueous electrolyte cell in which an unit cell is housed in an exterior packaging material of a laminated film and encapsulated on heat fusion, and in which electrode terminal leads electrically connected to positive and negative terminals of said unit cell are exposed to outside of the exterior packaging material as said electrode terminal leads are surrounded by heat-fused portions,

wherein

said unit cell is a wound assembly of elongated positive and negative electrodes each being constituted by a current collector and a layer of an active material formed thereon; and wherein

said electrode terminal leads are mounted on the current collectors of the positive and negative collectors in the vicinity of the innermost end of said wound assembly.

2. The non-aqueous electrolyte cell according to claim 1 wherein said electrode terminal leads are bent on one end face of said wound assembly so as to be flush with a lateral side of said wound assembly.

3. The non-aqueous electrolyte cell according to claim 1 wherein said wound assembly is flat-shaped.

4. The non-aqueous electrolyte cell according to claim 1 wherein the electrolyte of said unit cell is a gel-like electrolyte or a solid electrolyte containing a matrix high polymer and lithium salts.

5. The non-aqueous electrolyte cell according to claim 4 wherein the current collectors of the positive and negative electrodes are exposed in the innermost turn of said wound assembly for attachment of the electrode terminal leads thereto and wherein the current collectors and the electrode terminal leads are covered with the gel-like electrolyte or the solid electrolyte.

6. The non-aqueous electrolyte cell according to claim 1 wherein the negative electrode of said unit cell is capable of doping and undoping lithium.

7. The non-aqueous electrolyte cell according to claim 6 wherein the material capable of doping and undoping lithium is a carbon material.

8. The non-aqueous electrolyte cell according to claim 1 wherein the positive electrode of said unit cell is a positive electrode containing a compound oxide of lithium and transition metals.

9. A non-aqueous electrolyte cell in which an unit cell is housed in an exterior packaging material of a laminated film and encapsulated on heat fusion, and in which electrode terminal leads electrically connected to positive and negative terminals of said unit cell are exposed to outside of the exterior packaging material as said electrode terminal leads are surrounded by heat-fused portions,

wherein

said unit cell is a wound assembly of an elongated positive electrode and an elongated negative electrode, said positive and negative electrodes being each formed by a current collector on both sides of which are formed layers of an active material;

and wherein

said electrode terminal leads are mounted on the current collectors of the positive and negative electrodes in the vicinity of the innermost turn of said wound assembly.

10. The non-aqueous electrolyte cell according to claim 9 wherein said electrode terminal leads are bent on one end face of said wound assembly so as to be flush with a lateral side of said wound assembly.

11. The non-aqueous electrolyte cell according to claim 9 wherein said wound assembly is flat-shaped.

12. The non-aqueous electrolyte cell according to claim 9 wherein the electrolyte of said unit cell is a gel-like electrolyte or a solid electrolyte containing a matrix high polymer and lithium salts.

13. The non-aqueous electrolyte cell according to claim 12 wherein the current collectors of the positive and negative electrodes are exposed in the innermost turn of said wound assembly for attachment of the electrode terminal leads thereto and wherein the current collectors and the electrode terminal leads are covered with the gel-like electrolyte or the solid electrolyte.

14. The non-aqueous electrolyte cell according to claim 9 wherein the negative electrode of said unit cell is capable of doping and undoping lithium.

15. The non-aqueous electrolyte cell according to claim 14 wherein the material capable of doping and undoping lithium is a carbon material.

16. The non-aqueous electrolyte cell according to claim 9 wherein the positive electrode of said unit cell is a positive electrode containing a compound oxide of lithium and transition metals.

17. A method for manufacturing a non-aqueous electrolyte cell in which a layer of an active material is formed on a current collector and an electrode terminal lead is attached thereto to form an elongated positive electrode, another layer of an active material is formed on another current collector and another electrode terminal lead is attached thereto to form an elongated negative electrode, said positive and negative electrodes being wound on a flat winding arbor, the resulting wound assembly then being encapsulated in an exterior packaging material of a laminated film and sealed on heat fusion, said method comprising:

detecting the positions of said electrode terminal leads;

positioning said electrode terminal leads with respect to said flat winding arbor;

and

winding said positive and negative terminals on said winding arbor.

18. The method according to claim 17 further comprising:

extracting said flat winding arbor from the wound assembly; and

collapsing said wound assembly to a flat shape.